

APOLLO APPLICATIONS  
PROGRAM DIRECTIVE NO. 16

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FROM:

*Harold T. Fisk*  
DIRECTOR, APOLLO APPLICATIONS

SUBJECT: Apollo Applications Program Nonmetallic Materials  
Policy

- REF. : (a) Apollo Applications Reliability and Quality Assurance  
Program Plan, NHB 5300.5, May 1967 Edition, Paragraph 2.12  
(b) Apollo Applications Parts and Materials Program Plan,  
NHB 5300.6, August 1968 Edition, Paragraph 3.2.5.4  
(c) Apollo Applications Test Requirements, NHB 8080.3,  
dated October 13, 1967, Paragraph 2.3.1.b.(3)  
(d) D-NA-0002, dated July 1968, Procedures and Requirements  
for the Flammability and Off-gassing Evaluation of  
Manned Spacecraft Nonmetallic Materials

I. PURPOSE

In establishing the policy for nonmetallic selection, control, test and evaluation in AAP the primary objective of this directive is to emphasize the importance of the nonmetallic materials program and its relationship to crew safety and mission success. The need for effective control of material flammability and off-gassing characteristics warrants continual attention of all concerned, and requires a high priority be given to the establishment on AAP of a program which produces maximum confidence in the use and control of nonmetallic materials.

The program required by this directive will use as a base certain existing Apollo requirements. It will reflect a unified multi-center approach to optimize developed nonmetallic technology and maximize the results and benefits which are derived from future similar activities. To this end a single set of test criteria; one test requirements document; a single set of test evaluation criteria; and one data bank will be established and used as the basis for the AAP Program. Redundant testing of materials and the conduct of supplementary tests which prevent collation or comparison of test results will be eliminated wherever possible.

## II. SCOPE

This directive is applicable to all NASA organizations with cognizance over the proposed AAP use of nonmetallic materials in space modules destined for habitation by man.

## III. REQUIREMENTS

- A. The nonmetallic materials categories and tests defined by D-NA-0002 apply to all AAP modules intended for habitation by man.
- B. Each AAPO is responsible for the preparation of an AAP implementation plan for the AAP application of D-NA-0002. This plan will contain, as a minimum, sections addressing materials management, supplier and contractor responsibilities, intra-center data exchange procedures, and waiver or deviation procedures.
- C. Waivers or deviations will be exchanged between development centers and integration centers for visibility. In addition, waivers or deviations will be forwarded to the MSC Materials Selection Review Board for review and concurrence to provide them the visibility into the various aspects of crew safety which is assigned to MSC as an AAP program responsibility. Copies of waivers or deviations will be sent to the Program Director (ML) for information.
- D. A composite report of all nonmetallic materials which could potentially contribute to flammability or toxicity hazards will be submitted to the Critical Design Review Board. The Critical Design Review Board will consider the composite report in conjunction with formerly approved waivers and deviations to determine if additional subsystem, system or full scale flammability or toxicity tests should be required.
- E. Test results of AAP materials testing conducted under D-NA-0002 will be submitted to a common data system, COMAT (Characteristics of Materials), MSC.

## IV. IMPLEMENTATION

The requirements of this directive are effective immediately. Any request for deviation from the policy herein will be submitted to the Director, Apollo Applications Program for approval.